

The Office Action dated September 17, 2002 has been reviewed carefully and certain claims have been cancelled and others amended in order to place the application in condition for allowance. Reconsideration of the prior rejection and allowance of the remaining amended claims are respectively requested on the basis of the following remarks.

THE INVENTION

The present invention provides a multifocal "contact lens" (as defined on page 6, lines 17-18 of the application). The lens is uniquely structured to provide simultaneous distant and near vision and has an inner concave surface and an outer convex surface. A unique benefit of the present invention is eliminating the burdensome transition "halo" between two adjacent lens portions. The aspheric portion which functions for distant vision is disposed within the center of the lens and a spherical portion which is of annular shape surrounds the aspheric portion and is employed for reading or other close viewing. All of these features are recited in amended claim 1. Dependent claim 4 recites the formation of both the aspheric portion and the spherical portion within the inner concave surface of the lens.

Dependent claim 5 recites a feature which contributes to the elimination of the undesired "halo" intermediate the two lens segments by having an annular radially outward portion of the aspheric portion abutting the annular spherical portion having substantially the same radius as said spherical portion.

With respect to claims 6 and 7, the dimensioning serves to coordinate the unique geometry of the structure as expressed for the aspheric portion having a diameter of about 2.5 to 4 mm. (Claim 6) and the annular spherical portion having a width on each side of the aspheric portion of about 3.5 to 5.5 mm. (Claim 7). As explained at page 7, lines 17 through 30 of the specification, the relationship between the individual, uniquely configured sectors and the maximum pupil width of the user is established by these claims.

Dependent claim 8 recites the central portion minimum thickness of at least 0.1 mm.

Dependent claim 9 recites that the contact lenses are structured to provide simultaneous distant and reading vision.

Dependent claims 10 and 11 recite, respectively, the aspherical portion and annular spherical surface being formed in the inner surface of the lens.

Dependent claims 12 and 13 recite the respective aspherical portion and annular spherical surface being formed on the outer surface of the lens.

Dependent claim 14 recites that the lens has only one aspherical portion and only one annular spherical portion.

Claims 2, 3 and 15 have been cancelled.

CLAIMS 1, 10, 12, 14-15, 16 – Section 112, paragraph 1

All of the much appreciated suggestions of the examiner have been made with one exception. The exception is claim 16. The specification at page 6, lines 17-18 defines “contact lens” as being generic to both “contact lenses” and “surgically implanted lenses”. This does not mean that a specific lens must serve both purposes. Reconsideration of this rejection is respectfully requested.

CLAIMS 6 AND 7

These claims were indicated as being allowable if rewritten in independent form. Amendments have been made so as to write claim 6 in independent form including the limitations of claims 4, 2 and 1, and to write claim 7 in independent form including the limitations of claims 5, 4, 2 and 1. Allowance of claims 6 and 7 is respectfully requested.

CLAIMS 1, 3, 9, 12-13 AND 15-SECTION 102(e)

These claims are rejected on the basis of Muckenhirn et al. Claims 3 and 15 have been cancelled. Amended claim 1 is the sole independent claim in this grouping.

The Muckenhirn et al reference provides a structure wherein the exterior surface of a lens is provided with a near zone spherical portion formed on the exterior in the center thereof and an adjacent portion which is an annular distance zone. The distance zone is said to be provided by an elliptical surface.

By contrast there is no teaching or suggestion of Applicant’s multifocal contact lens with an aspheric portion structured to provide distance vision disposed within the center of the lens and a spherical reading portion being of annular shape surrounding the aspheric portion.

With respect to claim 9 Applicant recites the simultaneous distant and reading

vision there is no express recital in Muckenhirn of this feature of Applicant's claim 9.

With respect to dependent claims 12 and 13, these claims recite the aspherical portion formed on the outer surface of the lens (claim 12) and the annular spherical surface formed on the outer surface (claim 13). It is noted that the near zone 1 which is centrally located in the Muckenhirn et al disclosure is said to be either formed spherically or aspherically or aspherically-elliptically while Applicant's annular near zone is said to be spherical and is employed in combination with the aspheric centrally located distance zone.

It is respectfully submitted that the remaining and amended claims 1, 9, and 12-13 are patentable over Muckenhirn et al.

CLAIMS 1-2, 9 AND 12-14 – Section 102(b)

These claims were rejected on the basis of Seidner et al. Seidner et al would teach one skilled in the art that a plurality of zones must be provided in order to establish a multifocal contact lens. More specifically, the teaching includes a diagnostic contact lens 10 as shown in figures 1 and 2 with surface 12 said to be a standard annular spherical or aspheric surface and surface 18 said to be an aspheric surface with the surfaces having different eccentricities. A further aspheric surface 14 may be provided. The purpose of this lens is said to be a diagnostic lens having a series of over-refraction procedures. These are performed after the initial evaluation for the prime focus in terms of ultimate patient use as exemplified by Figure 7 which requires a central portion 202 which is aspheric, and adjacent annular portion 204 which is said also to be aspheric. A further annular surface 206 which is also said to be aspheric with alterations of the eccentricity being said to contribute to the various vision capabilities of a given sector. Annular surfaces 206 and 210 are said to be either spheric or aspheric with no positive preference recited.

The distinctions noted in respect of Applicant's amended claim 1 need not be repeated at this juncture. Claim 2 has been cancelled. Claim 9 recites the structure providing simultaneous distant and reading vision as contrasted with Seidner et al's emphasis on a plurality of adjacent zones with different optical characteristics.

Claims 12 and 13 recite distinct regions being disposed on the outer surface of the lens and are not asserted as independently creating a patentable feature apart from

their dependency directly or indirectly from claim 1.

Claim 14 expressly recites that the lens has only one aspherical portion and only one spherical portion which is contrary to the positive teaching of Seidner et al.

It is respectfully submitted that remaining amended claims 1, 9 and 12-14 are patentable over Seidner et al.

CLAIMS 4-5, 8, 10-11 AND 16- SECTION 103(a)

These claims were rejected on the basis of Seidner et al in view of Portney with Portney being cited for its teaching for the corrective portions being formed either on the inner or outer surfaces. The comments made hereinbefore in respect of Seidner et al are equally applicable at this juncture and need not be repeated. This reference also would teach the required use of multiple radially inner and outer zones in order to achieve the desired effect. It is respectfully submitted that introducing the Portney teaching into Seidner et al would require hindsight reconstruction which is not taught or suggested by either reference considered individually.

As to dependent claim 4 this recites in the context of amended claim 1 the aspheric portion and annular spherical portion both being formed within the concave surface.

As to claim 5 it is respectfully submitted that there is no teaching in either of the references of having the radially outward portion of the aspheric portion abutting the annular spherical portion having "substantially the same radius as the spherical portion". This contributes to Applicant's unique configuration and elimination of the undesired "halo" in the transition area.

Claim 8 recites a preferred minimum thickness which is not taught or suggested by either applied reference.

Claims 10 and 11 relate to formation of the respective aspherical surface and spherical surface on the inner surface of the lens which for reasons stated hereinbefore are unique both in terms of dependency directly or indirectly from amended claim 1 and the inconsistency of the two cited references in this respect.

The recitals of claim 16 are not asserted as being independently patentable apart from dependency on amended claim 1.

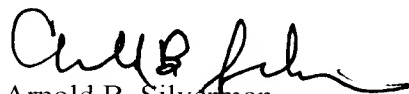
MISCELLANEOUS

The additional reference (Mercure) which has been cited but not applied is not deemed to be as relevant as the applied art.

SUMMARY

It is respectfully submitted that remaining claims 1, 4-14 and 16 all satisfy the requirements of Section 112, paragraph 1 and are patentable over the applied art and that the application is now in proper form for issuance of a Notice of Allowance. Such action is respectfully requested at an early date.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Arnold B. Silverman", with a stylized flourish at the end.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

1. (Amended) A multifocal contact lens comprising:
a transparent lens body having an inner concave surface and an outer convex surface,
an aspheric portion structured to provide distant vision,
a spherical portion disposed radially adjacent to said ~~central~~ aspheric portion structured to provide reading vision r_2
said aspheric portion disposed within the center of said lens, and
said spherical portion being of annular shape and surrounding
said aspheric portion.
4. (Amended) The multifocal contact lens of claim ~~2~~ 1 including
said aspheric central portion and said annular spherical portion both formed within said inner concave surface.
5. (Amended) The multifocal contact lens of claim 4 including
an annular radially outward portion of said aspheric ~~central~~ portion abutting said annular spherical portion having substantially the same radius as said spherical portion,
said spherical portion being of annular shape and surrounding said aspheric portion,
said aspheric central portion and said annular spherical portion both formed within said inner concave surface, and
an annular radially outward portion of said aspheric portion abutting said annular spherical portion having substantially the same radius as said spherical portion.
6. (Amended) A multifocal contact lens comprising:
~~The multifocal contact lens of claim 4 including~~
a transparent lens body having an inner concave surface and an outer convex surface,
an aspheric portion structured to provide distant vision,
a spherical portion disposed radially adjacent to said aspheric portion

structured to provide reading vision,

said aspheric portion disposed within the center of said lens,

said spherical portion being of annular shape and surrounding
said aspheric portion,

said aspheric central portion and said annular spherical portion both
formed within said inner concave surface, and

said aspheric portion having a diameter of about 2.5 to 4 mm.

7. (Amended) ~~The multifocal contact lens of claim 5 including~~
A multifocal contact lens comprising:

a transparent lens body having an inner concave surface and an outer
convex surface,

an aspheric portion structured to provide distant vision,

a spherical portion disposed radially adjacent to said central portion
structured to provide reading vision,

said aspheric portion disposed within the center of said lens,

said spherical portion being of annular shape and surrounding said
aspheric portion, and

an annular radially outward portion of said aspheric central portion
abutting said annular spherical portion having substantially the same radius as said
spherical portion, and

said annular spherical portion having a width of about 3.5 to 5.5 mm
on each side of said central portion.

10. (Amended) The multifocal contact lens of claim 1 including
said lens having a generally spherical outer surface, and
said aspherical ~~central~~ portion having its aspherical surface formed in
the inner surface of said lens.

12. (Amended) The multifocal contact lens of claim 1 including
said lens having a generally spherical inner surface, and
said aspherical ~~central~~ portion having its aspherical surface formed in
the outer surface of said lens.

14. (Amended) the multifocal contact lens of claim ~~2~~1 including

said lens having only one said aspherical ~~central~~ portion and only one said annular spherical portion.

16. (Amended) The multifocal contact lens of claim ~~2~~ 1 including said lens being a surgically implantable lens.